AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claim 1 (Currently Amended) A method comprising:

receiving a routing communication in accordance with a routing protocol, wherein the routing communication includes an identifier associated with a network device that sent the routing communication and an indicator that indicates ~~identifies at least one~~ the network device that sent the routing communication is capable of responding to performance probes used to monitor ~~supports~~ performance ~~monitoring~~ of a network; and

sending a performance probe to the network device identified by the identifier to collect network performance statistics.

Claim 2 (Currently Amended) The method of claim 1, wherein receiving ~~a~~ the routing communication includes receiving a plurality of routing communications that each identify respective network devices that are capable of responding to performance probes ~~support performance monitoring of a network~~ and further comprising dynamically generating data to identify the network devices that are capable of responding to performance probes ~~support performance monitoring~~ in response to the routing communications.

Claim 3 (Currently Amended) The method of claim 1, wherein the routing communication further includes routing information describing a topology of the network ~~an identifier associated with the network device and an indicator that indicates the network device is capable of supporting performance monitoring~~.

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Claim 4 (Currently Amended) The method of claim 1, further comprising:

generating an outbound routing communication in accordance with the routing protocol; and

sending the outbound routing communication to the network device associated with the identifier ~~that support performance monitoring~~ via the routing protocol, wherein the outbound routing communication identifies at least the sending network device as a supporter of performance monitoring.

Claim 5 (Original) The method of claim 1, further comprising generating the performance probe to include a timestamp that indicates a time at which the probe was sent.

Claim 6 (Original) The method of claim 1, wherein sending the performance probe comprises sending a plurality of performance probes.

Claim 7 (Original) The method of claim 6, wherein each of the performance probes is addressed to a common destination network device.

Claim 8 (Original) The method of claim 6, wherein each of the performance probes is associated with the same quality of service level.

Claim 9 (Original) The method of claim 6, wherein sending the plurality of performance probes comprises sending the plurality of performance probes at a periodic rate over an interval of time.

Claim 10 (Original) The method of claim 6, wherein sending the plurality of performance probes comprises:

sending a first performance probe having a first quality of service level to the network device; and

sending a second performance probe having a second quality of service level to the network device.

Claim 11 (Currently Amended) The method of claim 1, further comprising:

receiving a response to the performance probe from the network device;

adding a timestamp to the response to indicate the time of reception of the response; and

storing information contained in the response.

Claim 12 (Original) The method of claim 11, further comprising forwarding the stored information to a centralized computing device for computing comprehensive network performance statistics.

Claim 13 (Currently Amended) The method of claim 11, further comprising:

computing [[the]] network performance statistics from the information contained in the response; and

forwarding the network performance statistic to a centralized device for computing comprehensive network performance statistics.

Claim 14 (Original) The method of claim 1, further comprising:

receiving an inbound performance probe from the network device; and

sending a response to the inbound performance probe to the network device, wherein the response to the performance probe includes the received performance probe and a timestamp indicating the time of reception of the inbound performance probe.

Claim 15 (Original) The method of claim 1, wherein the network performance statistics includes at least one of network delay, network jitter, network throughput, network availability and network packet loss.

Claim 16 (Original) The method of claim 1, wherein the routing protocol comprises one of Border Gateway Protocol (BGP), Open Shortest Path First (OSPF), Intermediate System – Intermediate System (ISIS), and Routing Information Protocol (RIP).

Claim 17 (Currently Amended) A network device comprising:

a first data structure to store routing information that describes a topology of a network;

a second data structure to store performance community information that identifies one or more network devices that are capable of responding to performance probes used to monitor the network; and

a routing communication manager that receives a routing communication that identifies at least one route within a network and an indicator that indicates that a ~~at least one~~ network device that sent the routing communication is capable of responding to ~~supports~~ performance probes used to monitor~~ing~~ the network, ~~wherein in response to the routing communication the routing communication manager~~ updates the routing information of the first data structure to include the route identified in the routing communication and updates the performance community information of the second data structure to include ~~generates a data structure that identifies~~ the network device that sent the routing communication as one of the network devices capable of responding to ~~support~~ performance probes ~~monitoring~~.

Claim 18 (Currently Amended) The network device of claim 17, wherein the routing communication manager of the network device generates an outbound routing communication in accordance with the routing protocol, and sends the outbound routing communication to at least one of the one or more network devices identified in the second data structure via a routing communication protocol, wherein the outbound routing communication identifies the ~~sending~~ network device as capable of responding to ~~a supporter of~~ performance probes ~~monitoring~~.

Claim 19 (Currently Amended) The network device of claim 18, wherein the outbound routing communication includes an identifier associated with the ~~sending~~ network device and an indicator that indicates the ~~sending~~ network device is capable of responding to ~~supporting~~ performance probes ~~monitoring~~.

Claim 20 (Currently Amended) The network device of claim 17, further comprising a performance monitoring manager that collects network performance statistics by sending one or more [[a]] performance probes to at least a portion of the one or more network devices identified in the second data structure.

Claim 21 (Currently Amended) The network device of claim 20, wherein the ~~performance monitoring manager generates a~~ performance probes ~~that~~ include[[s]] a timestamp indicating a time at which the performance probe is sent ~~and sends the performance probe to the network device identified in the data structure to collect the network performance statistics~~.

Claim 22 (Currently Amended) The network device of claim 20 [[21]], wherein the performance monitoring manager sends a plurality of performance probes ~~each of performance probe~~ to one of the ~~a same destination~~ network devices identified in second data structure.

Claim 23 (Currently Amended) The network device of claim 22, wherein each of the plurality of performance probes is associated with a [[the]] same quality of service level.

Claim 24 (Currently Amended) The network device of claim 22, wherein the performance monitoring manager sends each of the plurality of performance probes at a periodic rate over an interval of time.

Claim 25 (Currently Amended) The network device of claim 20, wherein the performance monitoring manager sends a first performance probe associated with a first quality of service level to a first one of the one or more network devices identified in the second data structure and a second performance probe associated with a second quality of service level to the first one of the network devices.

Claim 26 (Currently Amended) The network device of claim 20, wherein the performance monitoring manager receives a response to at least one ~~each~~ of the performance probes, adds a timestamp to ~~each of~~ the response[[s]] to indicate a [[the]] time of reception of the response[[s]], and stores information contained in the response[[s]].

Claim 27 (Original) The network device of claim 26, wherein the performance monitoring manager forwards the stored information to a centralized computing device for computing comprehensive network performance statistics.

Claim 28 (Original) The network device of claim 26, wherein the performance monitoring manager computes the network performance statistics from the information contained in the response and forwards the network performance statistics to a centralized device for computing comprehensive network performance statistics.

Claim 29 (Currently Amended) The network device of claim 20, wherein the performance monitoring manager receives an inbound performance probe from one of the network devices identified in the second data structure and sends a response to the inbound performance probe, wherein the response includes the ~~received~~ inbound performance probe and a timestamp indicating the time of reception of the inbound performance probe.

Claim 30 (Original) The network device of claim 20, further comprising a processor and wherein at least one of the routing communication manager and the performance monitoring manager comprises a software process executing on the processor.

Claim 31 (Original) The network device of claim 20, wherein at least one of the routing communication manager and the performance monitoring manager are executed in hardware.

Claim 32 (Original) The network device of claim 20, further comprising a dedicated service card that implements the performance monitoring manager.

Claim 33 (Original) The network device of claim 17, wherein the network performance statistics include at least one of network delay, network jitter, network throughput, network availability and network packet loss.

Claim 34 (Original) The network device of claim 17, wherein the routing protocol comprises one of Border Gateway Protocol (BGP), Open Shortest Path First (OSPF), Intermediate System – Intermediate System (ISIS), and Routing Information Protocol (RIP).

Claim 35 (Currently Amended) A system comprising:

at least one network device[[s]] that receives ~~exchange~~ routing communications ~~with one another~~ in accordance with a routing protocol, wherein at least a portion of the routing communications include identifiers associated with network devices that sent the routing communications and indicators that indicate that the network device associated with the indicators are capable of responding to performance probes used to monitor performance of a network, wherein the network device sends performance probes to the network devices associated with the identifiers to collect network performance information~~to identify network devices that collect network performance information via performance probes~~; and

a statistical computing device that aggregates performance information from the network devices and computes collective network performance information for the network ~~devices~~ based on the aggregated performance information.

Claim 36 (Original) The system of claim 35, wherein the statistical computing device displays the collective network performance statistics to a user.

Claim 37 (Original) The system of claim 36, wherein the statistical computing device displays the network performance statistics to the user in real-time.

Claim 38 (Cancelled).

Claim 39 (Original) The system of claim 35, wherein each of the network devices exchange the routing communication via one of Border Gateway Protocol (BGP), Open Shortest Path First (OSPF), and Intermediate System – Intermediate System (ISIS).

Claim 40 (Currently Amended) The system of claim 35, wherein each of the at least one network device[[s]] collects performance information by sending performance probes to at least a portion of the ~~set of~~ network devices associated with the identifiers, receiving responses to the performance probes, and adding timestamps to the responses to indicate the time of reception of the responses.

Claim 41 (Currently Amended) A network device comprising:

a routing communication manager that receives ~~exchanges~~ routing communications in accordance with a routing protocol, wherein at least a portion of the routing communications include identifiers associated with the network devices that sent the routing communications and indicators that indicate that the network device associated with the indicators are capable of responding to performance probes used to monitor performance of a network ~~with other network devices to define a community that collects network performance information~~; and

a performance monitoring service card that manages performance sessions with the network devices associated with the identifiers by sending performance probes to the network devices to collect network performance statistics ~~of the community~~.

Claim 42 (Currently Amended) The network device of claim 41, wherein the performance monitoring service card generates performance probes and sends the performance probes to the network devices associated with the identifiers ~~of the community~~ to collect network performance statistics, wherein each of the performance probes include a timestamp indicating a time at which the respective one of the performance probes was sent.

Claim 43 (Currently Amended) The network device of claim 41, wherein the performance monitoring service card receives a response to at least one of the performance probes ~~from the network device~~, adds a timestamp to the response to indicate the time of reception of the response, and stores information contained in the response.

Claim 44 (Currently Amended) The network device of claim 41, wherein the performance monitoring service card receives an inbound performance probe from one of the network devices associated with a respective one of the identifiers and sends a response to the inbound performance probe, wherein the response to the inbound performance probe includes the ~~received~~ inbound performance probe and a timestamp indicating the time of reception of the inbound performance probe.

Claim 45 (Original) The network device of claim 41, wherein the routing protocol comprises one of Border Gateway Protocol (BGP), Open Shortest Path First (OSPF), and Intermediate System – Intermediate System (ISIS).

Claim 46 (Currently Amended) A computer-readable medium comprising instructions that cause a processor to:

receive a routing communication in accordance with a routing protocol, wherein the routing communication includes an identifier associated with a network device that sent the routing communication and an indicator that indicates ~~identifies at least one~~ the network device that sent the routing communication is capable of responding to performance probes used to monitor ~~supports~~ performance ~~monitoring~~ of a network; and

send a performance probe to the network device identified by the identifier to collect network performance statistics.

Claim 47 (Currently Amended) The computer-readable medium of claim 46, further comprising instruction that cause the processor to:

generate an outbound routing communication in accordance with the routing protocol; and

send the outbound routing communication to the network device associated with the identifier ~~that support performance monitoring~~ via the routing protocol, wherein the outbound routing communication identifies at least the sending network device as capable of responding to performance probes ~~a supporter of performance monitoring~~.

Claim 48 (Original) The computer-readable medium of claim 46, further comprising instructions that cause the processor to generate the performance probe to include a timestamp that indicates a time at which the probe was sent.

Claim 49 (Currently Amended) The computer-readable medium of claim 46, further comprising instruction that cause the processor to:

receive a response to the performance probe from the network device to which the performance probe was sent;

add timestamp to the response to indicate the time of reception of the response; and

store information contained in the response.

Claim 50 (Original) The computer-readable medium of claim 49, further comprising instruction that cause the processor to further comprising forward the stored information to a centralized computing device for computing comprehensive network performance statistics.

Claim 51 (Original) The computer-readable medium of claim 46, further comprising instruction that cause the processor to:

receive an inbound performance probe from the network device; and

send a response to the inbound performance probe to the network device, wherein the response to the performance probe includes the received performance probe and a timestamp indicating the time of reception of the inbound performance probe.

Claim 52 (New) The method of claim 1, wherein receiving a routing communication comprises receiving a routing communication in accordance with a routing protocol that includes a uniquely defined routing protocol attribute that indicates the network device that sent the routing communication is capable of responding to performance probes.

Claim 53 (New) The method of claim 1, receiving a routing communication comprises receiving a routing communication in accordance with a routing protocol that includes a uniquely defined BGP community attribute that indicates the network device that sent the routing communication is capable of responding to performance probes.